



**UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/199,127	11/24/98	ADDIS	1633-1128

PM92/0310
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EXAMINER VATERLAUS, C

ART UNIT 5627	PAPER NUMBER
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DATE MAILED: 10/10/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/199,127

Applicant(s)
Addis et al.

Examiner
Clifford B. Vaterlaus

Group Art Unit
3627



☒ Responsive to communication(s) filed on Jan 4, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-28 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-28 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Objections

1. Claims 5, 8, 10, and 22 are objected to because of the following informalities:

Claim 5, page 39, line 7, replace "wilt" with --will--; —NO

Claim 8, line 2, replace "form" with --from--; —NO

Claim 10, page 42, line 18, replace "wilt" with --will--; ✓

Claim 22, line 2, replace "form" with --from--; NO

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following instances of insufficient antecedent basis for limitations are noted:

Claim 1, line 2, "the casing"; —argued

Claim 1, line 4, "said casting"; ✓

Claim 2, line 2, "said bristle segment"; ✓

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Claim 3, line 1, "said plates"; ✓

Claim 5, lines 7-8, "the rotating shaft"; *argued*

Claim 5, lines 10-11, "the clearance area"; *argued*

Claim 5, lines 22-23, said opposing surfaces"; *argued*

Claim 5, lines 34-36, "said side of said neck portion which is subject to lower turbine fluid *argued*
pressure";

Claim 5, page 39, line 4, "the annular space"; *argued*

Claim 10, line 2, "the casing"; *argued*

Claim 10, line 5, "said casing"; ✓

Claim 10, line 33, "said large clearance position"; ✓

Claim 10, line 34, "said opposing surfaces"; ✓

Claim 10, page 42, line 3, "said small clearance position"; ✓

Claim 10, page 42, line 10, "the said side of said neck portion which is subject to lower *NO-?*
turbine fluid pressure";

Claim 10, page 42, line 15, "the annular space";

Claim 11, line 2, "said bristle segment"; ✓

Claim 15, fifth to the last line, "said casing"; ✓

Claim 15, fourth to the last line, "said small clearance position"; ✓

Claim 16, line 2, "said bristle segment"; ✓

Claim 17, line 2, "said plates"; ✓

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Claim 20, line 3, "said casing"; ✓

Claim 21, line 2, "said inner arcuate portion"; ✓

Claim 21, line 3, "said neck portion"; ✓

Claim 21, lines 5 and 6, "said contact with said casing"; ✓

Claim 21, line 6, "said seal teeth"; ✓

Claim 24, line 2, "the casing"; ✓

Claim 24, line 4, "said casting"; ✓

Claim 25, line 2, "said bristle segment"; ✓

Claim 26, line 1, "said plates"; ✓

Applicant should thoroughly review all claims to ensure proper antecedent basis for all limitations.

Claim 1 recites the limitation "a bore in opposing side edge surfaces for accepting a spring spanning said bore and a bore in an adjacent packing ring segment." However, Fig. 9 shows the bore does not extend in the adjacent packing ring. A similar ambiguity occurs in claim 24.

Claim 10, line 10, after "segment" insert --for--.

Claim 10, line 32, before "located" insert --adapted to be--.

Claim 10, line 34, after "portion" insert --adapted to be--.

Claim 10, page 42, line 5, replace "extending" with --adapted to extend--.

Claim 10, page 42, line 13, after first occurrence of "said" insert --ring segments--.

*didn't
understand
advises
count/sub*

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Claim 10, page 42, lines 14-15 recite "while working fluid which is flows into to" which is vague.

Claim 28 recites "a turbine or compressor comprising at least one packing ring segment as defined by claim 20." However, claim 20 is an "axial flow elastic fluid turbine." Thus the claim is ambiguous.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1-4, 10-14, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 5,971,400 to Turnquist et al.

Turnquist discloses a packing ring segment comprising a body portion having a groove (at 46) formed along a vertical extent and a bore (34) in opposing side edge surfaces for accepting a spring (40). Turnquist discloses a plurality of brush segments having a packet of bristles (46) having tip portions trimmed to terminate along a radius of curvature continuously extending along the longitudinal extent of the body portion so as to form a labyrinth seal. The bristles are disposed in a plane parallel to the principal plane of the rotor, extending in the direction of rotation of the

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turbine shaft (see fig. 2). Turnquist discloses the bristles within each brush segment are bound between a pair of plates (see fig. 1) having an incised channel to receive the base end portion of the bristles. The plates have a bottom edge surface with a radius of curvature adapted to conform to the radius of curvature of the groove. The bristles within each brush segment are bound within a channel (between the plates) by a core strip (the top portion of the plate on the right of the bristles shown in fig. 1).

Regarding claim 10, Turnquist discloses each segment of the seal ring comprises an inner arcuate portion having seal teeth (44), a radially outwardly facing arcuate surface, an outer ring portion having a pair of shoulders extending axially in opposite directions, a neck portion between the inner arcuate portion and the outer ring portion. Turnquist also discloses a radial positioning means (40) comprising a spring.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5, 7-9, 15-19, 21-23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,971,400 to Turnquist et al. in view of U.S. Pat. No. 5,547,340 to Dalton et al.

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Turnquist discloses the invention discussed above but does not disclose the structure of the turbine in which the seal is being used. However, Dalton discloses a turbine having the claimed structural features. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute one well known turbine for another known turbine.

8. Claims 6, 20, 25, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,971,400 to Turnquist et al. in view of U.S. Pat. No. 5,547,340 to Dalton et al. as applied to claims 5 and 15 above and further in view of U.S. Pat. No. 5,509,780 to Synfelt.

Turnquist and Dalton disclose the invention discussed above but do not disclose the radial positioning means includes a flat spring interposed between the casing shoulders and an inner surface of the outer ring portion of the ring segment. The radial position means disclosed by Turnquist is a coil spring. However, Synfelt teaches a seal which uses a flat spring interposed between the casing shoulders and the inner surface of the outer ring portion of the ring segment. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute one well known spring for another well known spring.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Response to Arguments

10. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection. The new grounds of rejection are based on art published since the previous office action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cliff Vaterlaus whose telephone number is (703)306-9177. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BethAnne Dayoan, can be reached at (703) 308-3865.

Submission of your response by facsimile transmission is encouraged. Group 3620's facsimile number is **(703) 305-3597**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitted by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 305-3597) on (Date)

(Typed or printed name of person signing this certificate)

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark

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Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be directed to bethanne.dayoan@uspto.gov.

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist at (703) 308-2168.



B. DAYOAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Cliff Vaterlaus
March 6, 2000